

CLAIMS

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1. A method of forwarding signals over a cellular link, comprising:
 receiving, at a first base station of a cellular fixed network, a packet of signals having a data payload directed to a second base station;
 determining whether the data payload will be used by the second base station; and
 forwarding the entire packet if the data payload will be used and not forwarding the entire packet if the data payload will not be used.
 - 10 2. A method according to claim 1, wherein receiving the packet comprises receiving a stream of packets of the same size at equal intervals of time.
 3. A method according to claim 1, wherein receiving the packet comprises receiving a packet which includes coded digital voice signals.
 4. A method according to claim 3, wherein determining whether the data payload will be used by the second base station comprises determining whether the contents of the payload will be decoded.
 5. A method according to claim 1, wherein determining whether the data payload will be used by the second base station comprises determining whether the second base station will forward or discard the contents of the payload.
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 - 25 6. A method according to claim 1, wherein determining whether the data payload will be used comprises determining based on information retrieved from a signaling line corresponding to the link.
 7. A method according to claim 1, wherein determining whether the data payload will be used comprises determining based on information retrieved from a header of the packet.
 - 30 8. A method according to claim 1, wherein determining whether the data payload will be used is performed before forwarding any part of the packet.
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 9. A method according to claim 1, wherein determining whether the data payload will be used is performed after forwarding at least part of the packet.

10. A method according to claim 9, wherein not forwarding the entire packet if the data payload will not be used comprises forwarding less than the entire packet.

5 11. A method according to claim 10, wherein forwarding less than the entire packet comprises forwarding only a header of the packet.

12. A method according to claim 11, wherein forwarding the entire packet comprises forwarding through a tunnel used by a plurality of connections.

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13. A method according to claim 1, wherein not forwarding the entire packet if the data payload will not be used comprises not forwarding any of the packet.

14. A method according to claim 13, comprising forwarding a message in place of a plurality of packets not forwarded.

15. A method according to claim 1, wherein forwarding the entire packet comprises forwarding the packet along with a connection indication field.

16. A method according to claim 1, wherein forwarding the entire packet comprises forwarding through a tunnel used by a number of connections greater than the number of channels in the tunnel.

17. A method according to claim 1, wherein the first base station and the second base station comprise base transmission stations.

18. A method according to claim 1, wherein the first base station comprises a base station controller.

19. A method of forwarding signals over a link between base stations, comprising: receiving, at a first base station of a cellular fixed network, a plurality of packets; and forwarding the entire packet of at least one of the packets and not forwarding the entire packet of at least one of the packets.

20. A method according to claim 19, wherein receiving the plurality of packets comprises receiving packets of a plurality of mobile units the packets of each mobile unit being received at a fixed rate.

21. A method according to claim 19, wherein forwarding the entire packet of at least one of the packets comprises forwarding the entire packet of less than a predetermined percentage of the received packets.

22. A method for decompressing packets being forwarded over a link between base stations, comprising:

receiving signals representing packets belonging to a plurality of connections;
forwarding packets which were received in their entirety; and
generating replacement packets in place of packets not received in their entirety.

23. Apparatus for compressing packets being forwarded over a link between base stations, comprising:

an input interface which receives packets having a data payload;
a processor which determines whether the data payload carries meaningful information;

and

an output interface which forwards the entire packet if the data payload carries meaningful information and does not forward the entire packet if the data payload does not carry meaningful information.

24. Apparatus according to claim 23, wherein the processor which determines whether the data payload carries meaningful information also generates the packets.

25. Apparatus according to claim 23, wherein the processor examines a header of the packets to determine whether the data payload is meaningful.

26. Apparatus according to claim 23, wherein the output interface begins to forward the packets before the processor determines whether the data payload is meaningful.

27. Apparatus according to claim 23, comprising a delay unit which delays forwarding the packets while the processor determines whether the data payload is meaningful.

28. Apparatus for decompressing packets being forwarded over a link between base stations, comprising:

an input interface which receives signals belonging to a plurality of connections;

5 a forwarding unit which forwards packets which were received in their entirety; and

a processor which generates replacement packets in place of packets not received in their entirety.

29. Apparatus according to claim 28, wherein the processor generates replacement packets
10 from received headers.

30. Apparatus according to claim 28, wherein the processor generates a plurality of replacement packets based on a single message.

31. Apparatus according to claim 30, wherein the processor generates a plurality of replacement packets of different connections based on a single message.

32. A system for forwarding packets from and to mobile units, comprising:

a base transmission station which generates a stream of packets each having a data
20 payload;

sub a compression unit which determines whether the data payload carries meaningful information, forwards the entire packet of packets which carry meaningful information and does not forward the entire packet of packets which do not carry meaningful information; and

a base station controller which receives the forwarded packets and generates
25 replacement packets for packets not forwarded in their entirety.

33. Apparatus for forwarding packets through a fixed cellular network, comprising:

a base transmission station having an interface to mobile units which receives packets of up to a total first amount of bandwidth;

30 one or more first links, having a total second amount of bandwidth, through which the base transmission station receives packets; and

one or more second links, having a total third amount of bandwidth which is smaller than the sum of the first and second amounts of bandwidth, through which the base transmission station forwards packets.

34. Apparatus according to claim 33, wherein the third amount of bandwidth is smaller than the second amount of bandwidth.

5 35. Apparatus according to claim 33, wherein the base transmission station statistically compresses the packets received through the interface of the mobile units and through the one or more first links, into the second links.

36. Apparatus according to claim 33, wherein a compression unit external to the base
10 transmission station statistically compresses the packets received through the interface of the mobile units and through the one or more first links, into the second links.

37. A telecommunication system operative in a cellular network, comprising:

one or more first base stations, each connected to a second base station via first
5 transmission paths having first bandwidths, where said first bandwidths may be equal or different from each other; and

a third base station connected to said second base station via a second transmission path having a second bandwidth which is substantially lower than the sum of said first bandwidths.

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